



Grain Transportation Report

A weekly publication of the Agricultural Marketing Service www.ams.usda.gov/GTR

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WEEKLY HIGHLIGHTS

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Corn Inspections Rebound but Total Grain Inspected Decreases

For the week ending January 23, total inspections of grain (corn, wheat, and soybeans) for export from all major U.S. export regions reached 2 million metric tons (mmt). Total grain inspections were down 10 percent from the previous week, down 15 percent from last year, and 14 percent below the 3-year average. The week-to-week drop in total inspections was driven by a 57-percent decrease in inspections of wheat and a 14-percent decrease in soybean inspections. Despite the drop in total inspections, corn inspections jumped 69 percent from the previous week to their highest level since mid-December 2019—mainly because of higher corn shipments to Latin America. Pacific Northwest (PNW) grain inspections decreased 40 percent from the previous week, but Mississippi Gulf inspections increased 21 percent for the same period.

Ocean Freight Rates Fall

Ocean freight rates for shipping bulk grain continued to fall from the peak reached during the third quarter of last year, as the Chinese Lunar Year kicked in. As of January 23, 2020, the rate for shipping a metric ton (mt) of grain from the U.S. Gulf to Japan was \$45.50. This was 1 percent less than the previous week and the beginning of the year, respectively, and 13 percent below last year's peak reached on September 19, 2019. The rate from PNW to Japan was \$24.75 per mt, unchanged from the previous week, but 1 percent below the beginning of the year and 17 percent below last year's peak. The Lunar Year celebrations started on Saturday, January 25, and are expected to last until Saturday, February 8. Typically, trade volumes are very light during the period of celebrations.

U.S. Department of Transportation (DOT) Announces \$900 Million for INFRA Grants

Infrastructure for Rebuilding America (INFRA) grants aim to assist in rebuilding the aging U.S. infrastructure. Projects eligible for funding include intermodal or rail projects, highway or bridge projects on the National Highway System, and projects increasing capacity on the Interstate Highway System. Grants will be awarded for both large (at least \$25 million) and small projects (at least \$5 million). Each fiscal year, 10 percent of available INFRA funds are reserved for small projects. At least 25 percent of grant money will fund rural projects such as those addressing deteriorating conditions and increased fatality rates on rural transportation infrastructure. Applications for the grants will be accepted until February 25.

Snapshots by Sector

Export Sales

For the week ending January 16, **unshipped balances** of wheat, corn, and soybeans totaled 22.3 mmt. This represented a 28-percent decrease in outstanding sales, compared to the same time last year. Net **corn export sales** reached 1.007 mmt, up 28 percent from the past week. Net **soybean export sales** were 0.790 mmt, up 23 percent from the previous week. Net weekly **wheat export sales** reached 0.696 mmt, up 7 percent from the previous week.

Rai

U.S. Class I railroads originated 19,373 grain carloads during the week ending January 18. This was a 6-percent increase from the previous week, 16 percent fewer than last year, and 18 percent fewer than the 3-year average.

Average February shuttle **secondary railcar** bids/offers (per car) were \$92 above tariff for the week ending January 23. This was \$104 more than last week and \$191 more than this week last year. There were no non-shuttle bids/offers this week.

Barge

For the week ending January 25, barge grain movements totaled 469,672 tons. This was an 18.4-percent decrease from the previous week and 3 percent more than the same period last year.

For the week ending January 25, 286 grain barges moved down river—66 barges fewer than the previous week. There were 705 grain barges unloaded in New Orleans, 14 percent more than the previous week.

Ocear

For the week ending January 23, 30 occangoing grain vessels were loaded in the Gulf—14.3 percent fewer than same period last year. Within the next 10 days (starting January 24), 45 vessels were expected to be loaded—16.7 percent fewer than the same period last year.

As of January 23, the rate for shipping a metric ton (mt) of grain from the U.S. Gulf to Japan was \$45.50. This was 1 percent less than the previous week. The rate from PNW to Japan was \$24.75 per mt, unchanged from the previous week.

Fue

For the week ending January 27, the U.S. average **diesel fuel price** decreased 2.7 cents from the previous week to \$3.01 per gallon, 4.5 cents above the same week last year.

Feature Article/Calendar

2019 Export Grain Transportation Demand and Outlook for 2020

2019 Synopsis

After a remarkable and record-setting year in 2016 (see March 23, 2017, *Grain Transportation Report* (*GTR*)), demand for transporting U.S. grain exports has since declined markedly across all modes (barge, rail, and oceangoing grain vessel), especially in 2019. In the past few years, uncertainty caused by trade

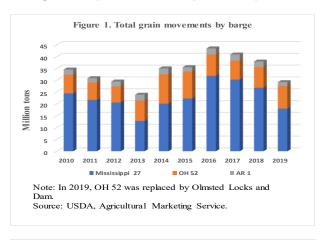
negotiations with China and Mexico has dampened demand. Then, in 2019, demand took a hit from a series of extreme weather events in the Midwest early in the y ear (see April 4, 2019 and June 27, 2019 *GTR*). Blizzard conditions, excessive rainfall, and snowmelt caused severe flooding and other significant disruptions to truck, railroad, and barge traffic along the Mississippi River.

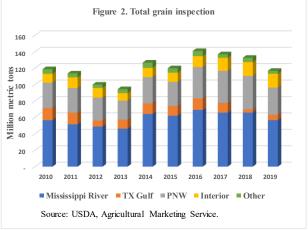
In 2019, barges transported 29.25 million tons of grain along the Mississippi River to New Orleans for export (fig. 1), 23 percent less than 2018 and 33 percent less than 2016. In addition, the weekly barge grain movements along the river exceeded 1 million tons in only 2 weeks in 2019, compared to 6 weeks in 2018 and 13 weeks in 2016.

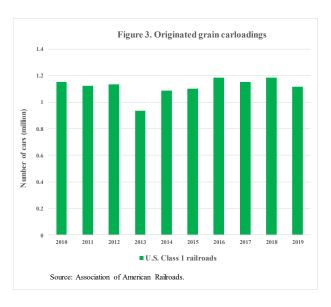
Total grain inspections, roughly 117 million metric tons (mmt) in 2019, were 12 percent less than 2018 and 17 percent below a record high in 2016 (fig. 2). Except for the Texas Gulf, all major export regions reported lower inspections in 2019.

Although railroads substantially restored their operations from the weather disruptions, U.S. Class 1 rail—originated carloads of grain (fig. 3) and rail deliveries to ports (fig. 4) were lower than in 2018 and 2016. U.S. Class 1 rail—originated carloads totaled 1.16 million in 2019—6 percent fewer than the 1.18 million in 2018 and 2016. In 2019, sample carloads of grain delivered to the U.S. ports totaled 359,514—10 percent fewer than the 400,531 carloads in 2018 and 21 percent fewer than the record 452,580 carloads in 2016.

In 2019, the total number of oceangoing grain vessels at berth in the U.S. Gulf and Pacific Northwest (PNW) were the same as in 2018, but 2 percent less than 2016. In 2019 and 2018, 2,934 oceangoing grain vessels were either loading or waiting to be loaded in the U.S. Gulf and PNW, compared to 2,983 vessels in 2016.





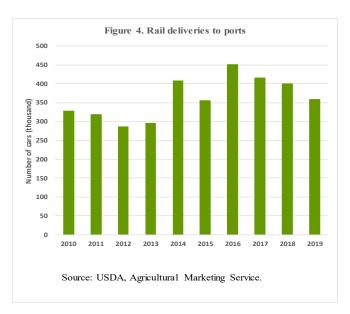


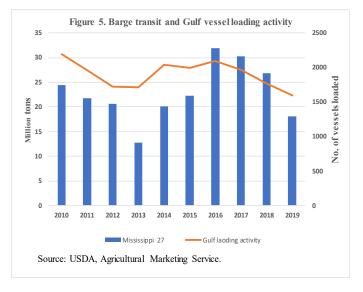
Outlook for 2020

Although the year is relatively new, demand for export grain transportation started off very low in 2020. According to USDA's World Agricultural Supply and Demand Estimates (Jan. 2020), a slight projected increase in wheat and soybean exports will be more than offset by a decrease in corn exports. For the week ending January 22, 2020, year-to-date (YTD) rail deliveries to ports were 31 percent less than for the same YTD period in 2019 (see *GTR*, Table 3). As of January 18, YTD grain carloads originated by U.S. Class I railroads were 16 percent below the comparable YTD 2019 numbers (see *GTR*, Table 4). As of January 25, YTD grain barge movements down the Mississippi River were 47 percent less than in YTD 2019 (see *GTR*, Table 10). As of January 23, YTD grain vessel loading activity in the U.S. Gulf was 11 percent less than in YTD 2019, while for PNW, it was 5 percent less.

Figure 5 shows the historical relationship between grain barge transit on the Mississippi River and loading activity of oceangoing vessels in the U.S. Gulf. Total grain barge movements at Locks No. 27¹ are seen to parallel the grain vessel-loading activity in the U.S. Gulf—the two indicators are closely tied. So far this year, both grain barge movements down the river and vessel loading activity in the U.S. Gulf have been below YTD 2019 levels.

Nevertheless, despite the currently low demand for transporting grain exports, several factors suggest demand may rally as 2020 progresses. Although lower than 2018 levels, grain stocks as of December 1, 2019, were still relatively high. High stocks in December signal possible future movement, because storage must be emptied prior to next year's harvests. In addition, YTD outstanding (unshipped) export balances of grain





for the week ending January 16, 2020, were at the same level as in the same period in 2019 (see *GTR*, **Table 12**). As of January 23, YTD total grain inspections were 1 percent above 2019 (see *GTR*, **Table 16**), and ocean freight rates for shipping bulk grains were moderate. Finally, the recent trade negotiations and agreements among the United States, Mexico, and China may boost U.S. exports to those countries, pushing up demand for transporting grain exports. Barring any unforeseen circumstances, even with the strengthening of the dollar exchange rate value, export grain transportation demand will likely pick up later in 2020.

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¹ Locks No. 27 (Chain of Rocks Locks)—located at the southern end of <u>Chouteau Island</u> near <u>St. Louis</u>, MO—contain a 1,200-foot main lock and a 600-foot auxiliary lock and are the southernmost locks on the <u>Mississippi</u> <u>River</u>.

Grain Transportation Indicators

Table 1 **Grain transport cost indicators** ¹

Ordin transport to	ost minute to the								
	Truck	Ra	Rail		Rail Barge		Ocean		
For the week ending		Unit train	Shuttle		Gulf	Pacific			
01/29/20	202	n/a	229	181	203	176			
01/22/20	204	n/a	225	185	206	176			

¹Indicator: Base year 2000 = 100. Weekly updates include truck = diesel (\$/gallon); rail = near-month secondary rail market bid and monthly tariff rate with fuel surcharge (\$/car); barge = Illinois River barge rate (index = percent of tariff rate); ocean = routes to Japan (\$/metric ton); n/a = not available.

Source: USDA, Agricultural Marketing Service.

Table 2
Market Update: U.S. origins to export position price spreads (\$/bushel)

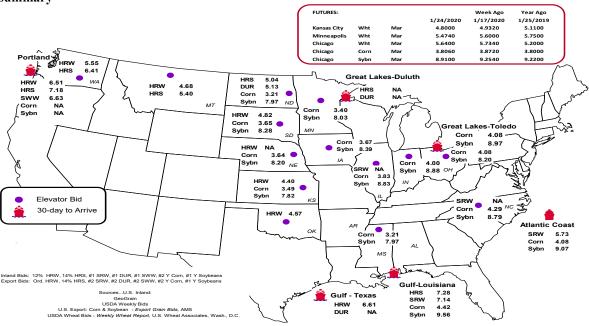
Commodity	Origin-destination	1/24/2020	1/17/2020
Corn	IL-Gulf	-0.59	-0.52
Corn	NE-Gulf	-0.78	-0.72
Soybean	IA-Gulf	-1.17	-1.20
HRW	KS–Gulf	-2.21	-2.16
HRS	ND-Portland	-2.14	-2.09

Note: nq = no quote; n/a = not available; HRW = hard red winter wheat; HRS = hard red spring wheat.

Source: USDA, Agricultural Marketing Service.

The **grain bid summary** illustrates the market relationships for commodities. Positive and negative adjustments in differential between terminal and futures markets, and the relationship to inland market points, are indicators of changes in fundamental market supply and demand. The map may be used to monitor market and time differentials.

Figure 1 Grain bid summary



Rail Transportation

Table 3

Rail deliveries to port (carloads)¹

	Mississippi		Pacific	Atlantic &			Cross-border
For the week ending	Gulf	Texas Gulf	Northwest	East Gulf	Total	Week ending	Mexico ³
1/22/2020 ^p	566	793	3,020	182	4,561	1/18/2020	1,983
1/15/2020 ^r	465	496	3,909	130	5,000	1/11/2020	2,323
2020 YTD ^r	1,915	2,595	13,739	853	19,102	2020 YTD	6,968
2019 YTD ^r	1,490	3,192	21,167	1,896	27,745	2019 YTD	8,640
2020 YTD as % of 2019 YTD	129	81	65	45	69	% change YTD	81
Last 4 weeks as % of 2019 ²	129	81	65	45	69	Last 4wks. % 2019	107
Last 4 weeks as % of 4-year avg. ²	87	48	64	40	61	Last 4wks. % 4 yr.	122
Total 2019	40,974	51,167	251,181	16,192	359,514	Total 2019	127,622
Total 2018	22,118	46,532	310,449	21,432	400,531	Total 2018	129,674

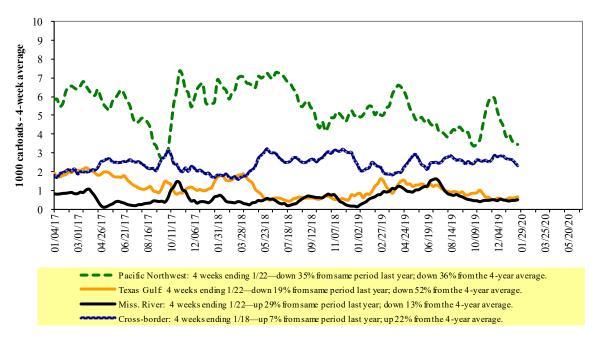
¹Data is incomplete as it is voluntarily provided.

YTD = year-to-date; p = preliminary data; r = revised data; n/a = not available; wks. = weeks; avg. = average.

Source: USDA, Agricultural Marketing Service.

Railroads originate approximately 24 percent of U.S. grain shipments. Trends in these loadings are indicative of market conditions and expectations.

Figure 2
Rail deliveries to port



Source: USDA, Agricultural Marketing Service.

² Compared with same 4-weeks in 2019 and prior 4-year average.

³ Cross-border weekly data is approximately 15 percent below the Association of American Railroads' reported weekly carloads received by Mexican railroads. to reflect switching between Kansas City Southern de Mexico (KCSM) and Grupo Mexico.

Table 4

Class I rail carrier grain car bulletin (grain carloads originated)

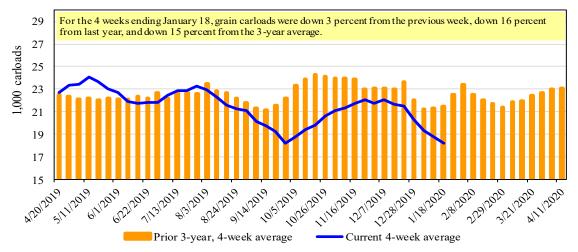
For the week ending:	E	ast		West		U.S. total	Ca	nada
1/18/2020	CSXT	NS	BNSF	KCS	UP	U.S. total	CN	CP
This week	1,998	2,211	9,883	756	4,525	19,373	2,773	2,934
This week last year	2,279	3,075	11,281	1,311	5,058	23,004	3,621	5,309
2020 YTD	5,219	7,348	29,276	3,153	12,296	57,292	10,574	10,020
2019 YTD	6,111	9,082	34,056	3,186	15,754	68,189	11,239	13,030
2020 YTD as % of 2019 YTD	85	81	86	99	78	84	94	77
Last 4 weeks as % of 2019*	82	78	84	102	85	84	86	78
Last 4 weeks as % of 3-yr. avg.**	84	85	85	107	82	85	93	82
Total 2019	91,611	137,278	568,369	58,527	260,269	1,116,054	212,649	235,892

^{*}The past 4 weeks of this year as a percent of the same 4 weeks last year.

Source: Association of American Railroads.

Figure 3

Total weekly U.S. Class I railroad grain carloads



Source: Association of American Railroads.

Table 5

Railcar auction offerings 1 (\$/car)²

Fo	r the week ending:		Delivery period							
	1/23/2020	Feb-20	Feb-19	Mar-20	Mar-19	Apr-20	Apr-19	May-20	May-19	
BNSF ³	COT grain units	0	no bids	0	no bids	0	no bids	0	no bids	
	COT grain single-car	38	0	0	0	0	0	0	0	
UP ⁴	GCAS/Region 1	no offer	no offer	no offer	no bid	no offer	no offer	n/a	n/a	
	GCAS/Region 2	no bid	no offer	no bid	no bid	no bid	no offer	n/a	n/a	

Auction offerings are for single-car and unit train shipments only.

Region lincludes: AR, IL, LA, MO, NM, OK, TX, WI, and Duluth, MN.

Region 2 includes: CO, IA, KS, MN, NE, WY, and Kansas City and St. Joseph, MO.

 $Source: USDA, Agricultural\, Marketing\, Service.$

^{**}The past 4 weeks as a percent of the same period from the prior 3-year average. YTD = year-to-date; avg. = average; yr. = year.

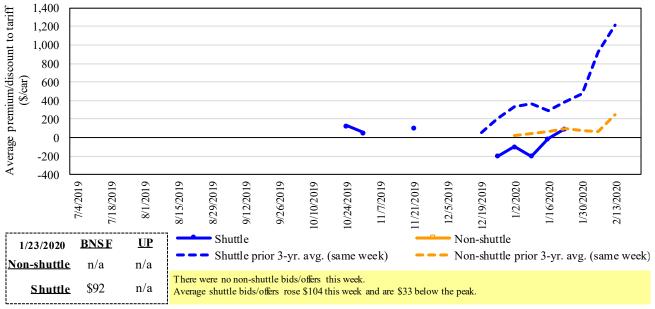
²Average premium/discount to tariff, last auction. n/a = not available.

³BNSF - COT = Certificate of Transportation; north grain and south grain bids were combined effective the week ending 6/24/06.

⁴UP - GCAS = Grain Car Allocation System.

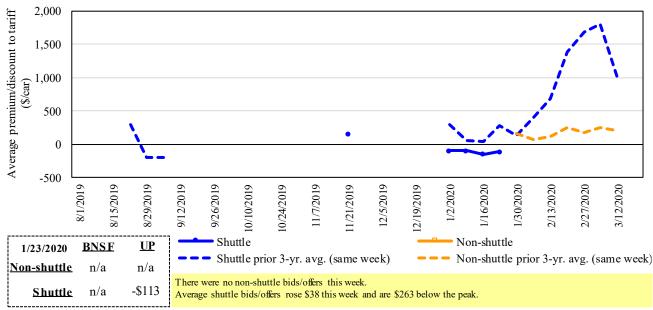
The **secondary rail market** information reflects trade values for service that was originally purchased from the railroad carrier as some form of guaranteed freight. The **auction and secondary rail** values are indicators of rail service quality and demand/ supply.

Figure 4
Bids/offers for railcars to be delivered in February 2020, secondary market



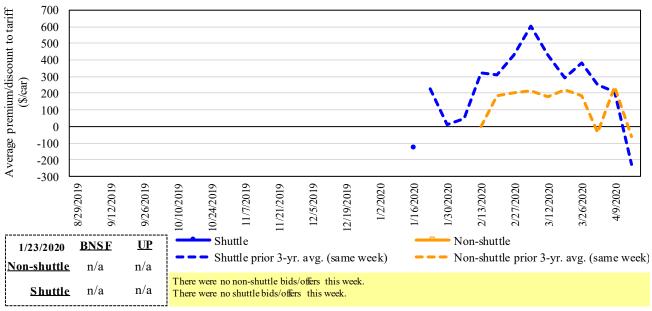
Note: Non-shuttle bids include unit-train and single-car bids. n/a = not available; avg. = average; yr. = year. Source: USDA, Agricultural Marketing Service.

Figure 5
Bids/offers for railcars to be delivered in March 2020, secondary market



Note: Non-shuttle bids include unit-train and single-car bids. n/a = not available; avg. = average; yr. = year. Source: USDA, Agricultural Marketing Service.

Figure 6
Bids/offers for railcars to be delivered in April 2020, secondary market



 $Note: Non-shuttle\ bids\ include\ unit-train\ and\ single-car\ bids.\ n/a=not\ available;\ avg.=average;\ yr.=year.$

Source: USDA, Agricultural Marketing Service.

Table 6

Weekly secondary railcar market (\$/car)¹

	For the week ending:			Del	livery period		
	1/23/2020	Feb-20	Mar-20	Apr-20	May-20	Jun-20	Jul-20
	BNSF-GF	n/a	n/a	n/a	n/a	n/a	n/a
<u>e</u>	Change from last week	n/a	n/a	n/a	n/a	n/a	n/a
shuttle	Change from same week 2019	n/a	n/a	n/a	n/a	n/a	n/a
Non-s	UP-Pool	n/a	n/a	n/a	n/a	n/a	n/a
ž	Change from last week	n/a	n/a	n/a	n/a	n/a	n/a
	Change from same week 2019	n/a	n/a	n/a	n/a	n/a	n/a
	BNSF-GF	92	n/a	n/a	n/a	n/a	n/a
	Change from last week	17	n/a	n/a	n/a	n/a	n/a
ttle	Change from same week 2019	8	n/a	n/a	n/a	n/a	n/a
Shuttle	UP-Pool	n/a	(113)	n/a	n/a	n/a	n/a
	Change from last week	n/a	38	n/a	n/a	n/a	n/a
	Change from same week 2019	n/a	n/a	n/a	n/a	n/a	n/a

¹Average premium/discount to tariff, \$/car-last week.

 $Note: Bids\ listed\ are\ market\ indicators\ only\ and\ are\ not\ guaranteed\ prices.\ n/a=not\ available; GF=guaranteed\ freight; Pool=guaranteed\ pool.$

 $Data\ from\ James\ B.\ Joiner\ Co., Tradewest\ Brokerage\ Co.$

 $Source: USDA, A gricultural \, Marketing \, Service.$

The tariff rail rate is the base price of freight rail service and—together with fuel surcharges and any auction and secondary rail values—constitute the full cost of shipping by rail. Typically, auction and secondary rail values are a small fraction of the full cost of shipping by rail relative to the tariff rate. High auction and secondary rail values, during times of high rail demand or short supply, can exceed the cost of the tariff rate plus fuel surcharge.

Table 7

Tariff rail rates for unit and shuttle train shipments 1

				Fuel			Percent
			Tariff	surcharge_	Tariff plus surc		change
January 2020	Origin region ³	Destination region ³	rate/car	per car	metric ton	bushel ²	Y/Y ⁴
<u>Unit train</u>							
Wheat	Wichita, KS	St. Louis, MO	\$3,983	\$101	\$40.56	\$1.10	-1
	Grand Forks, ND	Duluth-Superior, MN	\$4,333	\$0	\$43.03	\$1.17	2
	Wichita, KS	Los Angeles, CA	\$7,240	\$0	\$71.90	\$1.96	1
	Wichita, KS	New Orleans, LA	\$4,525	\$178	\$46.70	\$1.27	-1
	Sioux Falls, SD	Galveston-Houston, TX	\$6,976	\$0	\$69.28	\$1.89	1
	Northwest KS	Galveston-Houston, TX	\$4,801	\$195	\$49.61	\$1.35	-1
	Amarillo, TX	Los Angeles, CA	\$5,121	\$271	\$53.55	\$1.46	-1
Corn	Champaign-Urbana, IL	New Orleans, LA	\$3,900	\$201	\$40.73	\$1.03	-4
	Toledo, OH	Raleigh, NC	\$6,816	\$0	\$67.69	\$1.72	4
	Des Moines, IA	Davenport, IA	\$2,415	\$43	\$24.41	\$0.62	6
	Indianapolis, IN	Atlanta, GA	\$5,818	\$0	\$57.78	\$1.47	3
	Indianapolis, IN	Knoxville, TN	\$4,874	\$0	\$48.40	\$1.23	4
	Des Moines, IA	Little Rock, AR	\$3,800	\$125	\$38.98	\$0.99	-2
	Des Moines, IA	Los Angeles, CA	\$5,680	\$365	\$60.03	\$1.52	-2
Soybeans	Minneapolis, MN	New Orleans, LA	\$3,631	\$194	\$37.98	\$1.03	-13
	Toledo, OH	Huntsville, AL	\$5,630	\$0	\$55.91	\$1.52	3
	Indianapolis, IN	Raleigh, NC	\$6,932	\$0	\$68.84	\$1.87	3
	Indianapolis, IN	Huntsville, AL	\$5,107	\$0	\$50.71	\$1.38	3
	Champaign-Urbana, IL	New Orleans, LA	\$4,645	\$201	\$48.13	\$1.31	-3
Shuttle train							
Wheat	Great Falls, MT	Portland, OR	\$4,143	\$0	\$41.14	\$1.12	2
	Wichita, KS	Galveston-Houston, TX	\$4,361	\$0	\$43.31	\$1.18	2
	Chicago, IL	Albany, NY	\$7,074	\$0	\$70.25	\$1.91	20
	Grand Forks, ND	Portland, OR	\$5,801	\$0	\$57.61	\$1.57	1
	Grand Forks, ND	Galveston-Houston, TX	\$6,121	\$0	\$60.78	\$1.65	1
	Northwest KS	Portland, OR	\$6,012	\$320	\$62.88	\$1.71	0
Corn	Minneapolis, MN	Portland, OR	\$5,180	\$0	\$51.44	\$1.31	0
	Sioux Falls, SD	Tacoma, WA	\$5,140	\$0	\$51.04	\$1.30	0
	Champaign-Urbana, IL	New Orleans, LA	\$3,820	\$201	\$39.93	\$1.01	-1
	Lincoln, NE	Galveston-Houston, TX	\$3,880	\$0	\$38.53	\$0.98	0
	Des Moines, IA	Amarillo, TX	\$4,220	\$157	\$43.47	\$1.10	3
	Minneapolis, MN	Tacoma, WA	\$5,180	\$0	\$51.44	\$1.31	0
	Council Bluffs, IA	Stockton, CA	\$5,000	\$0	\$49.65	\$1.26	0
Soybeans	Sioux Falls, SD	Tacoma, WA	\$5,850	\$0	\$58.09	\$1.58	2
-	Minneapolis, MN	Portland, OR	\$5,900	\$0	\$58.59	\$1.59	2
	Fargo, ND	Tacoma, WA	\$5,750	\$0	\$57.10	\$1.55	2
	Council Bluffs, IA	New Orleans, LA	\$4,875	\$232	\$50.71	\$1.38	1
	Toledo, OH	Huntsville, AL	\$4,805	\$0	\$47.72	\$1.30	4
	Grand Island, NE	Portland, OR	\$5,860	\$327	\$61.44	\$1.67	1

¹A unit train refers to shipments of at least 25 cars. Shuttle train rates are generally available for qualified shipments of

Source: BNSF Railway, Canadian National Railway, CSX Transportation, and Union Pacific Railroad.

⁷⁵⁻¹²⁰ cars that meet railroad efficiency requirements.

²Approximate load per car = 111 short tons (100.7 metric tons): corn 56 pounds per bushel (lbs/bu), wheat and soybeans 60 lbs/bu.

³Regional economic areas are defined by the Bureau of Economic Analysis (BEA).

⁴Percentage change year over year (Y/Y) calculated using tariff rate plus fuel surcharge.

Table 8

Tariff rail rates for U.S. bulk grain shipments to Mexico

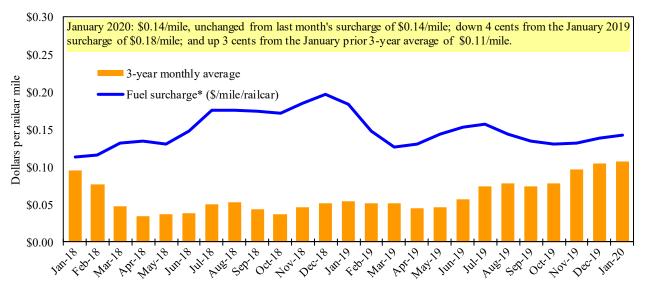
Date	: January 2	2020		Fuel			Percent
	Origin		Tariff	surcharge	Tariff plus surc	harge per:	change ⁴
Commodity	state	Destination region	rate/car ¹	per car ²	metric ton ³	bushel ³	Y/Y
Wheat	MT	Chihuahua, CI	\$7,509	\$0	\$76.72	\$2.09	3
	OK	Cuautitlan, EM	\$6,775	\$139	\$70.65	\$1.92	0
	KS	Guadalajara, JA	\$7,534	\$633	\$83.44	\$2.27	5
	TX	Salinas Victoria, NL	\$4,329	\$85	\$45.10	\$1.23	0
Corn	IA	Guadalajara, JA	\$8,902	\$542	\$96.49	\$2.45	6
	SD	Celaya, GJ	\$8,140	\$0	\$83.17	\$2.11	3
	NE	Queretaro, QA	\$8,278	\$291	\$87.56	\$2.22	0
	SD	Salinas Victoria, NL	\$6,905	\$0	\$70.55	\$1.79	0
	MO	Tlalnepantla, EM	\$7,643	\$284	\$80.99	\$2.06	0
	SD	Torreon, CU	\$7,690	\$0	\$78.57	\$1.99	3
Soybeans	MO	Bojay (Tula), HG	\$8,547	\$506	\$92.49	\$2.51	5
	NE	Guadalajara, JA	\$9,172	\$529	\$99.11	\$2.69	5
	IA	El Castillo, JA	\$9,490	\$0	\$96.97	\$2.64	4
	KS	Torreon, CU	\$7,964	\$366	\$85.10	\$2.31	4
Sorghum	NE	Celaya, GJ	\$7,772	\$479	\$84.31	\$2.14	5
	KS	Queretaro, QA	\$8,108	\$174	\$84.62	\$2.15	1
	NE	Salinas Victoria, NL	\$6,713	\$140	\$70.01	\$1.78	1
	NE	Torreon, CU	\$7,157	\$339	\$76.59	\$1.94	4

Rates are based upon published tariff rates for high-capacity shuttle trains. Shuttle trains are available for qualified shipments of 75-110 cars that meet railroad efficiency requirements.

Sources: BNSF Railway, Union Pacific Railroad, Kansas City Southern.

Figure 7

Railroad fuel surcharges, North American weighted average 1



 $^{^{\}rm I}$ Weighted by each Class I railroad's proportion of grain traffic for the prior year.

Sources: BNSF Railway, Canadian National Railway, CSX Transportation, Canadian Pacific, Union Pacific Railroad, Kansas City Southem, Norfolk Southern Corp.

²Fuel surcharge adjusted to reflect the change in Ferrocarril Mexicano, S.A. de C.V railroad fuel surcharge policy as of 10/01/2009.

³Approximate load per car = 97.87 metric tons: Corn & Sorghum 56 lbs/bu, Wheat & Soybeans 60 lbs/bu.

⁴Percentage change calculated using tariff rate plus fuel surchage; Y/Y = year over year.

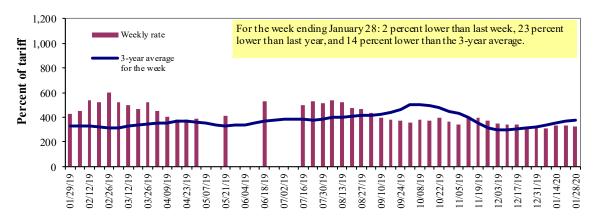
^{*} Beginning January 2009, the Canadian Pacific fuel surcharge is computed by a monthly average of the bi-weekly fuel surcharge.

^{**}CSX strike price changed from \$2.00/gal. to \$3.75/gal. starting January 1,2015.

Barge Transportation

Figure 8

Illinois River barge freight rate^{1,2}



¹Rate = percent of 1976 tariff benchmark index (1976 = 100 percent); ²4-week moving average of the 3-year average. Source: USDA, Agricultural Marketing Service.

Table 9
Weekly barge freight rates: Southbound only

	<u>,gg.</u>	Twin Cities	Mid- Mississippi	Lower Illinois River	St. Louis	Cincinnati	Lower Ohio	Cairo- Memphis
Rate ¹	1/28/2020	-	-	326	218	245	245	209
	1/21/2020	-	-	333	238	256	256	223
\$/ton	1/28/2020	-	_	15.13	8.70	11.49	9.90	6.56
	1/21/2020	-	-	15.45	9.50	12.01	10.34	7.00
Curren	t week % change	e from the sam	ne week:					
	Last year	-	-	-23	-37	-32	-32	-37
	3-year avg. ²	-	-	-14	-24	-22	-23	-15
Rate ¹	February	-	-	337	227	248	248	214
	April	392	359	340	234	252	252	215

¹Rate = percent of 1976 tariff benchmark index (1976 = 100 percent); ²4-week moving average; ton = 2,000 pounds; "-" not available due to closure

Source: USDA, Agricultural Marketing Service.

Figure 9 Benchmark tariff rates

Calculating barge rate per ton:

(Rate * 1976 tariff benchmark rate per ton)/100

Select applicable index from market quotes included in tables on this page. The 1976 benchmark rates per ton are provided in map.

Map Credit: USDA, Agricultural Marketing Service

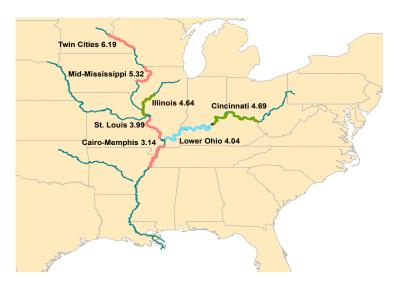
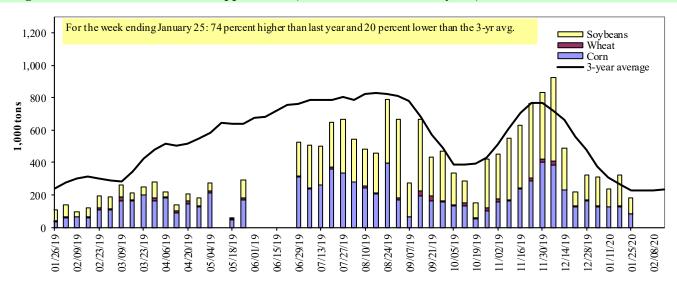


Figure 10 Barge movements on the Mississippi River¹ (Locks 27 - Granite City, IL)



¹ The 3-year average is a 4-week moving average.

Source: U.S. Army Corps of Engineers.

Table 10

Barge grain movements (1,000 tons)

For the week ending 01/25/2020	Corn	Wheat	Soybeans	Other	Total
Mississippi River					
Rock Island, IL (L15)	0	0	0	0	0
Winfield, MO (L25)	0	0	0	0	0
Alton, IL (L26)	96	3	110	2	210
Granite City, IL (L27)	81	3	99	2	185
Illinois River (LAGRANGE)	92	3	136	2	234
Ohio River (OLMSTED)	128	4	123	4	258
Arkansas River (L1)	0	11	15	0	27
Weekly total - 2020	209	18	237	6	470
Weekly total - 2019	197	40	214	5	457
2020 YTD ¹	448	30	562	6	1,045
2019 YTD ¹	950	149	866	7	1,972
2020 as % of 2019 YTD	47	20	65	NA	53
Last 4 weeks as % of 2019 ²	89	55	135	79	106
Total 2019	12,780	1,631	14,683	154	29,247

¹ Weekly total, YTD (year-to-date), and calendar year total include MS/27, OH/OLMSTED, and AR/1; Other refers to oats, barley, sorghum, and rye. L (as in "L15") refers to a lock or lock and dam facility.

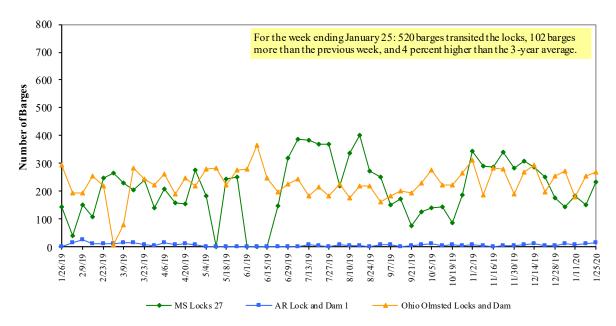
Note: 1. Total may not add exactly, due to rounding.

Source: U.S. Army Corps of Engineers.

² As a percent of same period in 2019.

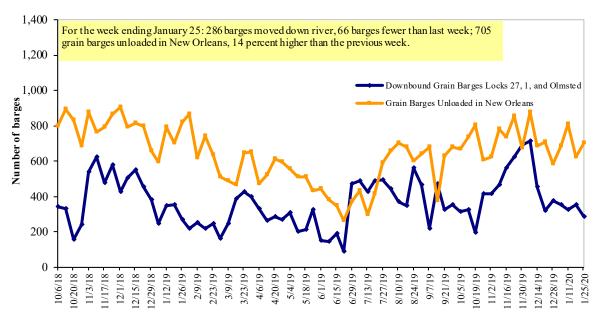
^{2.} Starting from 11/24/2018, weekly movement through Ohio 52 is replaced by Olmsted.

Figure 11
Upbound empty barges transiting Mississippi River Locks 27, Arkansas River Lock and Dam 1, and Ohio River Olmsted Locks and Dam



Source: U.S. Army Corps of Engineers.

Figure 12 **Grain barges for export in New Orleans region**



Source: U.S. Army Corps of Engineers and USDA, Agricultural Marketing Service.

Truck Transportation

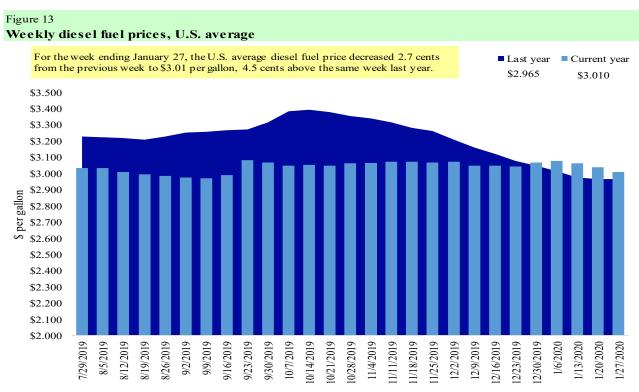
The **weekly diesel price** provides a proxy for trends in U.S. truck rates as diesel fuel is a significant expense for truck grain movements.

Table 11 Retail on-highway diesel prices, week ending 1/27/2020 (U.S. \$/gallon)

			Chang	e from
Region	Location	Price	Week ago	Year ago
I	East Coast	3.047	-0.028	-0.003
	New England	3.119	-0.013	-0.069
	Central Atlantic	3.224	-0.024	-0.013
	Lower Atlantic	2.914	-0.034	0.021
II	Midwest	2.901	-0.036	0.095
III	Gulf Coast	2.773	-0.024	-0.016
IV	Rocky Mountain	2.984	-0.026	0.073
V	West Coast	3.565	-0.009	0.117
	West Coast less California	3.198	-0.008	0.099
	California	3.857	-0.009	0.131
Total	U.S.	3.010	-0.027	0.045

¹Diesel fuel prices include all taxes. Prices represent an average of all types of diesel fuel.

Source: U.S. Department of Energy, Energy Information Administration.



Source: U.S. Department of Energy, Energy Information Administration, Retail On-Highway Diesel Prices.

Grain Exports

Table 12
U.S. export balances and cumulative exports (1,000 metric tons)

C.S. export balances and cumulat	те схрог	13 (1,000	inc tire	tons			U.S. CAPOTE BAIANCES AND CUMULATIVE CAPOTES (1,000 INCITIC TOILS)										
			Who	eat			Corn	Soybeans	Total								
For the week ending	HRW	SRW	HRS	SWW	DUR	All wheat											
Export balances ¹																	
1/16/2020	1,609	437	1,431	1,129	190	4,796	10,482	6,978	22,255								
This week year ago	1,808	886	1,511	1,167	90	5,463	13,021	12,517	31,001								
Cumulative exports-marketing year ²																	
2019/20 YTD	5,825	1,693	4,374	2,970	624	15,485	9,826	24,226	49,538								
2018/19 YTD	3,771	1,391	3,993	2,962	330	12,446	19,267	17,852	49,565								
YTD 2019/20 as % of 2018/19	154	122	110	100	189	124	51	136	100								
Last 4 wks as % of same period 2018/19	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a								
2018/19 Total	8,591	3,204	6,776	5,164	479	24,214	48,924	46,189	119,327								
2017/18 Total	9,150	2,343	5,689	4,854	384	22,419	57,209	56,214	135,842								

¹ Current unshipped (outstanding) export sales to date

Note: Marketing Year: wheat = 6/01-5/31, corn and soybeans = 9/01-8/31. YTD = year-to-date; wks = weeks; HRW= hard red winter; srw= soft red winter; HRS= hard red spring; SWW= soft white wheat; DUR= durum.

N/A indicates missing value due to partial government shutdown in January 2019.

Source: USDA, Foreign Agricultural Service.

Table 13 **Top 5 importers**¹ of U.S. corn

For the week ending 1/16/2020	Total commi	tments ²	% change	Exports ³
	2019/20	2018/19	current MY	3-yr. avg.
	current MY	last MY*	from last MY	2016-18
		- 1,000 mt -		
Mexico	9,331	11,150	(16)	14,659
Japan	3,607	6,366	(43)	11,955
Korea	0	2,300	(100)	4,977
Colombia	1,813	2,151	(16)	4,692
Peru	15	1,469	(99)	2,808
Top 5 Importers	14,766	23,436	(37)	39,091
Total U.S. corn export sales	20,308	32,287	(37)	54,024
% of projected exports	45%	61%		
Change from prior week ²	1,007	0		
Top 5 importers' share of U.S. corn				
export sales	73%	73%		72%
USDA forecast January 2020	45,165	52,545	(14)	
Corn use for ethanol USDA forecast, January 2020	136,525	136,551	(0)	

¹Based on USDA, Foreign Agricultural Service (FAS) marketing year ranking reports for 2018/19; marketing year (MY) = Sep 1 - Aug 31.

Note: (n) indicates negative number; mt = metric ton; *zero indicates missing value due to partial government shutdown in January 2019. Source: USDA, Foreign Agricultural Service.

² Shipped export sales to date; new marketing year now in effect for wheat, corn, and soybeans.

²Cumulative exports (shipped) + outstanding sales (unshipped), FAS weekly export sales report, or export sales query. Total commitments change (net sales) from prior week could include revisions from previous week's outstanding sales or accumulated sales.

³FAS marketing year ranking reports (carryover plus accumulated export; yr. = year; avg. = average.

Table 14

Top 5 importers of U.S. soybeans

For the week ending 1/16/2020	Total comm	nitments ²	% change	Exports ³
	2019/20	2018/19	current MY	3-yr. avg.
	current MY	last MY*	from last MY	2016-18
		- 1,000 mt -		- 1,000 mt -
China	11,614	3,484	233	25,733
Mexico	3,185	4,100	(22)	4,271
Indonesia	1,017	1,163	(13)	2,386
Japan	1,351	1,377	(2)	2,243
Egypt	1,546	1,227	26	1,983
Top 5 importers	18,713	11,350	65	36,616
Total U.S. soybean export sales	31,204	30,369	3	53,746
% of projected exports	65%	64%		
change from prior week ²	790	0		
Top 5 importers' share of U.S.				
soybean export sales	60%	37%		68%
USDA forecast, January 2020	48,365	47,629	102	

Based on USDA, Foreign Agricultural Service (FAS) marketing year ranking reports for 2018/19; Marketing year (MY) = Sep 1- Aug 31.

Note: (n) indicates negative number; mt = metric ton; *zero indicates missing value due to partial government shutdown in January 2019.

Source: USDA, Foreign Agricultural Service.

Table 15

Top 10 importers of all U.S. wheat

For the week ending 1/16/2020	Total commi	tments ²	% change	Exports ³
Ü	2019/20	2018/19	current MY	3-yr. avg.
	current MY	last MY*	from last MY	2016-18
	- 1,	000 mt -		- 1,000 mt -
Philippines	2,554	2,415	6	3,047
Mexico	2,861	2,213	29	3,034
Japan	2,043	2,166	(6)	2,695
Nigeria	1,130	862	31	1,564
Indonesia	744	692	7	1,381
Korea	1,124	1,134	(1)	1,355
Taiwan	1,056	812	30	1,164
Egypt	101	391	(74)	821
Thailand	751	790	(5)	747
Iraq	262	414	(37)	574
Top 10 importers	12,624	11,888	6	16,382
Total U.S. wheat export sales	20,281	17,909	13	24,388
% of projected exports	76%	70%		
change from prior week ²	696	0		
Top 10 importers' share of U.S.				
wheat export sales	62%	66%		67%
USDA forecast, January 2020	26,567	25,504	4	

¹ Based on USDA, Foreign Agricultural Service(FAS) marketing year ranking reports for 2018/19; Marketing year (MY) = Jun 1 - May 31.

²Cumulative exports (shipped) +outstanding sales (unshipped), FAS weekly export sales report, or export sales query. The total commitments change (net sales) from prior week could include reivisions from previous eweek's outstanding sales and/or accumulated sales.

 $^{^3}$ FAS Marketing year ranking reports (carryover plus accumulated export); yr. = year; avg. = average.

² Cumulative exports (shipped) + outstanding sales (unshipped), FAS weekly export sales report, or export sales query. The total commitments change (net sales) from prior week could include revisions from the previous week's outstanding and/or accumulated sales.

³ FAS marketing year final reports (carryover plus accumulated export); yr. = year; avg. = average. (n) indicates negative number; mt = metric ton;*0 indicates missing value due to partial government shutdown in January 2019. Source: USDA, Foreign Agricultural Service.

Table 16
Grain inspections for export by U.S. port region (1,000 metric tons)

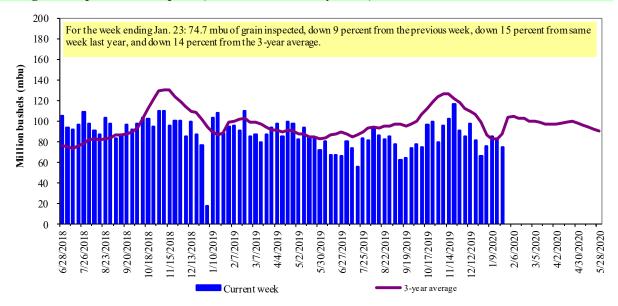
	For the week ending	Previous	Current week			2020 YTD as	Last 4-weeks as % of:		
Port regions	01/23/20	week*	as % of previous	2020 YTD*	2019 YTD*	% of 2019 YTD	Last year	Prior 3-yr. avg.	2019 total*
Pacific Northwest									
Wheat	158	342	46	984	789	125	125	127	13,961
Corn	15	50	29	65	882	7	7	8	7,047
Soybeans	227	279	82	859	748	115	115	79	11,969
Total	400	670	60	1,908	2,419	79	79	72	32,977
Mississippi Gulf	100	070	00	1,700	2,117	17	17	72	02,711
Wheat	42	79	53	286	316	91	91	104	4,448
Corn	536	209	256	1,502	1,815	83	83	82	20,763
Soybeans	734	795	92	3,196	2,324	137	137	110	31,398
Total	1,312	1,083	121	4,985	4,456	112	112	99	56,609
Texas Gulf	1,512	1,000	121	1,703	1,130	112	112	<i>,,</i>	30,007
Wheat	11	65	17	342	292	117	117	118	6,009
Corn	0	0	n/a	22	33	65	65	36	640
Soybeans	0	0	n/a	0	0	n/a	n/a	n/a	2
Total	11	65	17	364	325	112	112	104	6,650
Interior				•••	V 20			14.	0,000
Wheat	24	58	41	140	143	98	98	105	1,987
Com	107	131	82	474	488	97	97	98	7,857
Soybeans	121	179	67	522	395	132	132	126	7,043
Total	251	367	68	1,136	1,026	111	111	110	16,887
Great Lakes									
Wheat	0	0	n/a	1	11	8	8	8	1,339
Corn	0	0	n/a	0	0	n/a	n/a	n/a	11
Soybeans	0	0	n/a	0	16	0	0	0	493
Total	0	0	n/a	1	27	3	3	5	1,844
Atlantic									
Wheat	0	0	n/a	0	0	n/a	n/a	n/a	37
Com	0	0	n/a	0	14	0	0	0	99
Soybeans	11	17	66	89	108	83	83	45	1,353
Total	11	17	66	89	122	73	73	44	1,489
U.S. total from ports*									
Wheat	236	543	43	1,753	1,552	113	113	118	27,781
Com	657	390	169	2,063	3,233	64	64	65	36,417
Soybeans	1,093	1,269	86	4,665	3,591	130	130	101	52,258
Total	1,986	2,202	90	8,482	8,376	101	101	91	116,457

^{*}Data includes revisions from prior weeks; some regional totals may not add exactly due to rounding.

Source: USDA, Federal Grain Inspection Service; YTD= year-to-date; n/a = not applicable or no change.

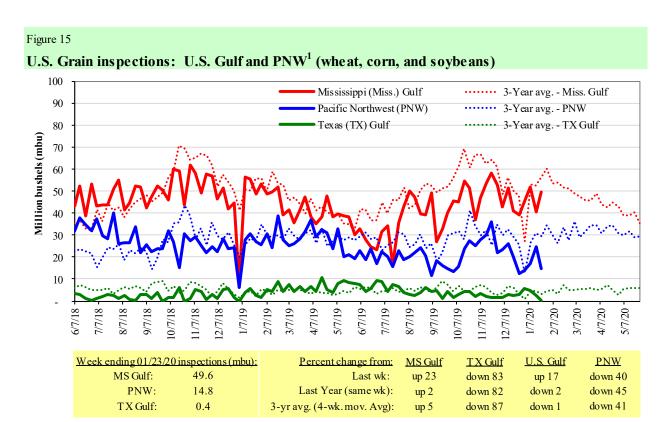
The United States exports approximately one-quarter of the grain it produces. On average, this includes nearly 45 percent of U.S.-grown wheat, 50 percent of U.S.-grown soybeans, and 20 percent of the U.S.-grown corn. Approximately 53 percent of the U.S. export grain shipments departed through the U.S. Gulf region in 2018.

Figure 14
U.S. grain inspected for export (wheat, corn, and soybeans)



Note: 3-year average consists of 4-week running average.

Source: USDA, Federal Grain Inspection Service.



Source: USDA, Federal Grain Inspection Service.

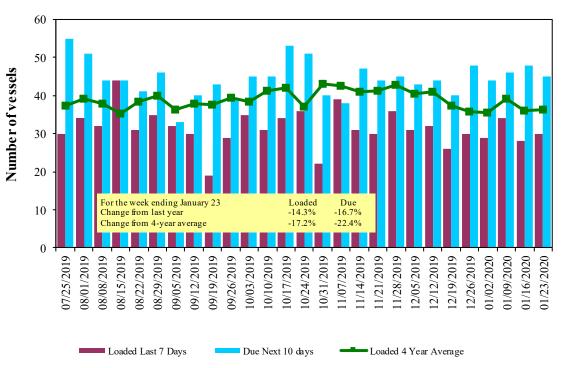
Ocean Transportation

Table 17
Weekly port region grain ocean vessel activity (number of vessels)

	•			Pacific
		Gulf		Northwest
		Loaded	Due next	
Date	In port	7-days	10-days	In port
1/23/2020	37	30	45	12
1/16/2020	33	28	48	12
2019 range	(2661)	(1844)	(3369)	(833)
2019 average	40	31	49	17

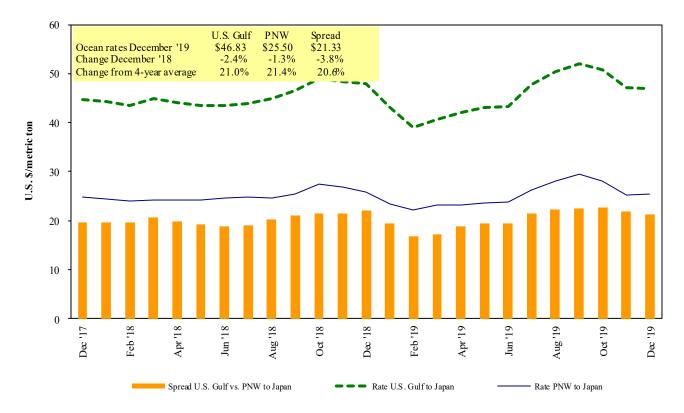
Source: USDA, Agricultural Marketing Service.

Figure 16
U.S. Gulf¹ vessel loading activity



¹U.S. Gulf includes Mississippi, Texas, and East Gulf. Source:USDA, Agricultural Marketing Service.

Figure 17 **Grain vessel rates, U.S. to Japan**



Note: PNW = Pacific Northwest.

Source: O'Neil Commodity Consulting.

Table 18

Ocean freight rates for selected shipments, week ending 1/25/2020

Export	Import	Grain	Loading	Volume loads	Freight rate
region	region	types	date	(metric tons)	(US \$/metric ton)
U.S. Gulf	Bangladesh	Wheat	Dec 10/20	48,990	79.92*
U.S. Gulf	China	Heavy Grain	Jan 25/30	65,000	46.50
U.S. Gulf	China	Heavy Grain	Dec 15/20	65,000	49.75
U.S. Gulf	China	Heavy Grain	Nov 15/18	66,000	49.00
U.S. Gulf	Rotterdam	Heavy Grain	Feb 5/11	55,000	19.50
PNW	China	Heavy Grain	Jan 22/26	63,000	23.00
PNW	Bangladesh	Wheat	Dec 10/20	23,080	74.44*
Brazil	China	Heavy Grain	Feb 12/21	65,000	34.50
Brazil	China	Heavy Grain	Feb 18/27	60,000	34.00
Brazil	Japan	Corn	Dec 22/31	49,000	37.25 op 37.15

*50 percent of food aid from the United States is required to be shipped on U.S.-flag vessels.

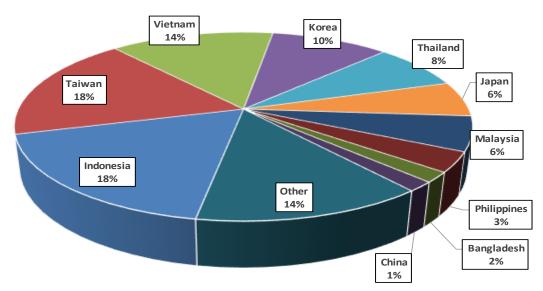
Note: Rates shown are per metric ton (2,204.62 lbs. = 1 metric ton), free on board (F.O.B), except where otherwise indicated; op = option.

Source: Maritime Research, Inc.

In 2018, containers were used to transport 8 percent of total U.S. waterborne grain exports. Approximately 55 percent of U.S. waterborne grain exports in 2018 went to Asia, of which 13 percent were moved in containers. Approximately 94 percent of U.S. waterborne containerized grain exports were destined for Asia.

Figure 18

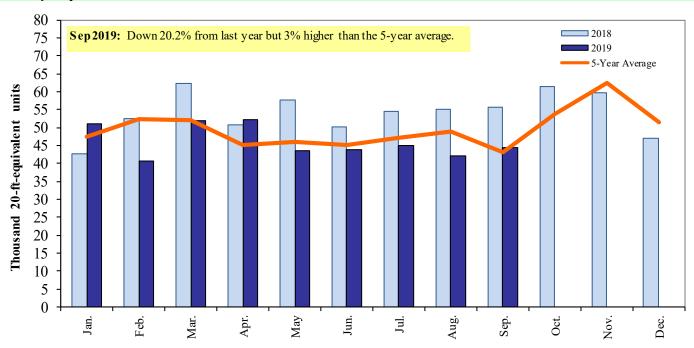
Top 10 destination markets for U.S. containerized grain exports, Jan-Sep 2019



Note: The following Harmonized Tariff Codes are used to calculate containerized grains movements: 1001, 100190, 1002, 1003 100300, 1004, 100400, 1005, 100590, 1007, 100700, 1102, 110100, 230310, 110220, 110290, 1201, 120100, 230210, 230990, 230330, and 120810.

Source: USDA, Agricultural Marketing Service, Transportation Services Division analysis of PIERS data.

Figure 19
Monthly Shipments of Containerized Grain to Asia



Note: The following Harmonized Tariff Codes are used to calculate containerized grains movements: 100190, 100200, 100300, 100400, 100590, 100700, 110100, 110220, 110290, 120100, 120810, 230210, 230310, 230330, and 230990.

Source: USDA, Agricultural Marketing Service, Transportation Services Division analysis of PIERS data.

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